

# Systems for Recognizing Problematic Situations of Forming an External Environment Orders' Portfolio

L.B. Sorokina<sup>1</sup>, N.E. Bauman Moscow State Technical University, lbs0415@yandex.ru

<sup>1</sup> Postgraduate Student, Moscow, Russia

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## key words

production organization, project portfolio, parent company, recognition systems, recognition and resolution of problem situations

The research objectives of the article is to offer an effective tool for pre-project analysis, recognition of problematic situations, formation of an external environment orders' portfolio and to develop their solutions.

I have identified the subjects of the external contour of the formation of the parent enterprise projects' portfolio. I have proposed the approaches to the formation of a problem situation recognition system (SRPS) for the formation of an external environment orders' portfolio. One of the SRPS blocks is on consideration. Classification principles were defined and solutions, classes and signs of problem situations were systematized. The scheme of the SRPS of the external environment and the scheme of its block operation have been developed.

The relevance of the study was dictated by the need to resolve conflict situations that arise between the parent company and customers of the external contour of the project portfolio formation, increase planning efficiency and increase the competitiveness of the parent company and the corporation as a whole.

## References

- Aleksandrovskaia L.N., Afanas'ev A.P., Lisov A.A. Sovremennye metody obespecheniya bezotkaznosti slozhnykh tekhnicheskikh sistem [Modern methods of ensuring the reliability of complex technical systems]. Moscow, Logos, 2001, 206 P.
- Volochienko V.A. Organizatsiya upravleniya proizvodstvennym protsessom mashinostroitel'nogo predpriyatiya na osnove raspoznavaniya problemnykh situatsiy (Teoriya, metodologiya, metody realizatsii): monografiya [Organization of management of the production process of a machine-building enterprise based on the recognition of problem situations (Theory, methodology, methods of implementation)], Moscow, GOU VPO MGUL, 2007, 216 P.
- Volochienko V.A., Sorokina L.B. Kontseptual'nye osnovy formirovaniya portfelya proektov golovnogo predpriyatiya [Conceptual foundations for the formation of the project portfolio of the head enterprise], *Kompetentnost' / Competency (Russia)*, 2021, no. 6, pp. 35–44. DOI: 10.24412/1993-8780-2021-6-35-44.
- Volochienko V.A., Sorokina L.B. Sovremenstvovanie vzaimosvyazey sub'ektov formirovaniya portfelya proektov golovnogo predpriyatiya [Improving the relationships between the subjects of forming a head enterprise portfolio project], *Computational nanotechnology*, 2020, vol. 7, no. 1, pp. 84–91. DOI: 10.33693/2313-223X-2020-7-1-84-91.
- Voropaev V.I., Gel'rud Ya.D. Matematicheskie modeli upravleniya dlya rukovoditelya i komandy upravleniya proektom. Chast' 1 [Mathematical models of management for the manager and the project management team. Part 1], *Upravlenie proektami i programmami*, 2014, no. 1(37), pp. 62–71.
- Gorelik A.L., Skripkin V.A. Metody raspoznavaniya [Recognition methods], Moscow, Vysshaya shkola, 1984, 208 P.
- Kukor B.L., Yakovleva E.A., Volkova E.S. Voprosy ontologii material'nykh i nematerial'nykh faktorov effektivnosti v strategicheskem planirovaniyu predpriyatiy elektroenergeticheskoy otrassli [Issues of the ontology of material and non-material factors of efficiency in strategic planning of enterprises in the electric power industry], St. Petersburg, Izd-vo Politekh-Press, 2020, pp. 329–333. DOI: 10.18720/SPBPU/2/d20-140.
- Mizyun V.A. Intellektual'noe upravlenie proizvodstvennymi sistemami i protsessami: printsipy organizatsii i instrumenty [Intellectual management of production systems and processes: principles of organization and tools], Tol'yatti, SNTs RAN, 2012, 214 P.
- Mishin V.M. Issledovanie sistem upravleniya [Research of control systems], Moscow, YUNIPI-DANA, 2003, 527 P.
- Podkopaei A.V., Podkopaei I.A. Tsentralizovannyy adaptivnyy algoritm protsedury optimal'nogo uslovnogo poiska mesta otkaza dinamicheskikh sistem [Centralized adaptive algorithm for the procedure of optimal conditional search for the failure point of dynamic systems] *Sibirskiy aerokosmicheskiy zhurnal*, 2021, vol. 22, no. 2, pp. 275–287. DOI: 10.31772/2712-8970-2021-22-2-275-287.
- Popov V.N., Kas'yanov V.S., Savchenko I.P. Sistemnyy analiz v menedzhmente [System analysis in management], Moscow, KnoRus, 2019, 298 P.
- Sorokina L.B. Opredelenie i analiz tseley vneshnikh sub'ektorov formirovaniya portfelya proektov golovnogo predpriyatiya [Definition and analysis of the goals of external participants in the formation of the parent company project portfolio], *Computational nanotechnology*, 2021, no. 2, pp. 63–75. DOI: 10.33693/2313-223X-2021-8-2-63-75.
- Banaszak Z., Bocewicz G. Declarative modeling for production order portfolio scheduling, *Foundations of management*, 2014, vol. 6, no. 3, pp. 7–24. DOI: http://dx.doi.org/10.1515/fman-2015-0014.
- Cheriet M., Kharma N., Liu Cheng-Lin, Ching Y. Suen. Character recognition systems. A guide for students and practitioners, Hoboken, New Jersey, USA, John Wiley & Sons Inc., 2007, 331 P.
- Christopher M. Bishop. Pattern Recognition and Machine Learning, NY, USA, Springer Science+Business Media, 2006, 728 P.
- Hassan A., Cook W. Project Portfolio Selection under Uncertainty: A DEA. Methodology using Predicted and Actual Frontiers, *Journal of Management Research*, 2020, vol. 12, no. 3, pp. 58–72. DOI: 10.5296/jmr.v12i3.17121.
- Lysytskiy V.L., Boiko M.O. Identification of problem situations in functional diagnostics of intelligent business systems, *Vestnik Natsional'nogo tekhnicheskogo universiteta KhPI*, 2020, no. 2(4), pp. 3–9. DOI: 10.20998/2079-0023.2020.02.01.
- Santos J. A. N. et al. Development of methodology for implementation of strategic planning — MISP, *Journal of Management & Production (JMP)*, 2014, vol. 5, no. 1, pp. 24–44; http://www.ijmp.jor.br (app.: 8.01.2019).
- Steinle C., Bruch H., Lawa D. Projektmanagement, FAZ Verlagsbereich Wirtschaftsbücher, 1995, pp. 136–143.
- Tsvetkov V.Ya. Cognitive information models, *Life Science Journal*, 2014, vol. 11, no. 4, pp. 468–471; https://lifesciencesite.com/ljsj/life1104/068\_24307life110414\_468\_471.pdf.